Docket No. 283579/01 DIV NEC.250DIV THUS V

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re U.S. Patent No. 6,943,590 182 E

Date Patented: September 13, 2005

Takashi KITAHARA

Serial No.: 10/699,777

Group Art Unit: 2816

Examiner: Wells, Kenneth B.

For: CLOCK MONITORING APPARATUS

SEP 2 9 2005

Petition, Commissioner for Patents Alexandria, VA 22313-1450

Filing Date: November 4, 200

-Certificate

of Correction

PETITION UNDER 37 C.F.R. § 1.183

Sir:

Applicant respectfully notes that the assignee's name and address on the above-identified Patent was inadvertently (and without deceptive intent) identified incorrectly in item 5 of the Issue Fee Transmittal (PTOL-85B) as: **NEC Corporation, Tokyo, JAPAN**, instead of the correct assignee name of:

NEC Electronics Corporation, Kawasaki, Kanagawa, JAPAN.

Therefore, Applicant respectfully requests a waiver of 37 C.F.R. § 3.81(a), so that the patent may be corrected. A check for \$130.00 is submitted herewith to cover the petition fee under 37 C.F.R. § 1.17(h).

A Request for Certificate of Correction to correct the assignee's name and the associated fee also are submitted herewith.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

Date: September 29, 2005

John J. Dresch, Esq. Registration No. 46,672

Sean M. McGinn

Registration No. 34,386

MCGINN INTELLECTUAL PROPERTY LAW GROUP, PLLC

8321 Old Courthouse Road, Suite 200 Vienna, Virginia 22182-3817 (703) 761-4100 Customer No. 21254

09/30/2005 SSITHIB1 00000035 500481 6943590 02 FC:1462 270.00 DA 130.00 OP

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re U.S. Patent No. 6,943,590

Date Patented: September 13, 2005

Takashi KITAHARA

Serial No.: 10/699,777

Group Art Unit: 2816

Filing Date: November 4,

Examiner: Wells, Kenneth B.

CLOCK MONITORING APPARATUS For:

SEP 2 9 2005

Assistant Commissioner for Patents Alexandria, VA 22313-1450



REQUEST FOR CERTIFICATE OF CORRECTION UNDER 37 C.F.R. § 1.323

Sir:

Applicant respectfully submits that the above-identified patent is not correct and therefore respectfully requests an expedited Certificate of Correction. A check for \$100.00 is submitted herewith to cover the fee under 37 C.F.R. § 1.20(a) for the Certificate of Correction.

Applicant notes that the assignee's name on the PTOL-85B was inadvertently and without deceptive intent identified incorrectly as: NEC Corporation, Tokyo, JAPAN, instead of the correct assignee name of:

NEC Electronics Corporation, Kawasaki, Kanagawa, JAPAN.

Therefore, a Petition under 37 C.F.R. § 1.183 to waive the requirements of 37 C.F.R. § 3.81(a), and the associated petition fee of \$130.00 under 37 C.F.R. § 1.17(h) also are submitted herewith. Additionally, a Statement under 37 C.F.R. § 3.73(b) is attached.

In particular, it is requested that the Assignee of the invention be corrected to:

NEC Electronics Corporation, Kawasaki, Kanagawa, JAPAN,

as reflected in the Notice of Recordation of Assignment with a recordation date of February 28, 2003, on Reel/Frame: 013799/0677, filed in the parent application, U.S. Application No. 10/242,415 (now U.S. Patent No. 6,670,839, issued on December 30, 2003) from which the application of the above-identified Patent claims priority under 35 U.S.C. § 119.

U.S. Patent No. 6,943,590 B2 Issued September 13, 2005 Application Serial No. 10/699,777 Attorney Docket No. 283579/01 DIV (NEC.250 DIV)

2

A copy of the Notice of Recordation of Assignment is enclosed, together with a copy of the Patent Assignment Abstract of Title from the U.S. Patent Office Patent Application Information Retrieval (PAIR) internet site, which shows the chain of title.

Also enclosed are copies of the Recordation Form Cover Sheet (form PTO 1595) filed on February 28, 2003, the Assignment from NEC Corporation to NEC Electronics Corporation, the Notice of Recordation of Assignment with a recordation date of September 13, 2002, on Reel/Frame: 013287/0421, filed in the parent application, the Recordation Form Cover Sheet (form PTO 1595) filed on September 13, 2002, and the Assignment of Application for Patent dated September 6, 2002 and filed on September 13, 2002, which show the chain of title.

A marked up copy of the cover page of the Patent also is enclosed for the Examiner's convenience.

Please forward a Certificate of Correction to the address shown below. If there are any questions on this matter, please direct all telephone calls to the number shown below.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

Date: September 29, 2005

John J. Dresch, Esq. Registration No. 46,672

Sean M. McGinn Registration No. 34,386

MCGINN INTELLECTUAL PROPERTY LAW GROUP, PLLC

8321 Old Courthouse Road, Suite 200 Vienna, Virginia 22182-3817 (703) 761-4100 Customer No. 21254

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO.: 6,943,590 B2

DATED : September 13, 2005 INVENTOR(S) : Takahashi KITAHARA

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Please change [73] Assignee to:

-NEC Electronics Corporation, of Kawasaki, Kanagawa (JP)-

MAILING ADDRESS OF SENDER (Please do not use customer number

PATENT NO. 6,943,590 B2

No. of additional copies

Doc Code:

PTO/SB/96 (09-04)
Approved for use through 07/31/2006. OMB 0851-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
persons are required to respond to a collection of information unless it displays a valid OMB control number. Under the Paperwork A ction Act of 1995,

TRADEMAPH STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Takashi KITAHARA	
Application No./Patent No.: 10/699,777; USP 6,943,590 B2 Filed/Issue	Date: Issued September 13, 2005
Entitled: CLOCK MONITORING APPARATUS	
NEC Electronics Corporation , a corporation	
(Name of Assignee) (Type of Assignee, e.g., corporation,	partnership, university, government agency, etc.)
states that it is:	RECEIVED
1. the assignee of the entire right, title, and interest; or	OCT 0 6 2005
2. an assignee of less than the entire right, title and interest. The extent (by percentage) of its ownership interest is %	PECEIVED OCT O 6 2005 OFFICE OF PETITIONS
in the patent application/patent identified above by virtue of either:	~/£5
A. [] An assignment from the inventor(s) of the patent application/patent identified above. The States Patent and Trademark Office at Reel, Frame	
OR	
B. [/] A chain of title from the inventor(s), of the patent application/patent identified above, to the	ne current assignee as shown below:
1. From: <u>NEC Corporation</u> To: <u>NEC Elec</u> The document was recorded in the United States Patent and Trademark Office at Reel <u>013799</u> , Frame <u>0677</u> , or for which a copy thereof is at	
2. From: Takashi Kitahara To: NEd The document was recorded in the United States Patent and Trademark Office at Reel 013287 , Frame 0421 , or for which a copy thereof is at	
3. From:	
The document was recorded in the United States Patent and Trademark Office at Reel, Frame, or for which a copy thereof is at	tached.
[] Additional documents in the chain of title are listed on a supplemental sheet.	
[√] Copies of assignments or other documents in the chain of title are attached. [NOTE: A separate copy (i.e., a true copy of the original assignment document (s)) must be accordance with 37 CFR Part 3, if the assignment is to be recorded in the records.	
The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.	September 2 9 , 2005
Signature	Date
John J. Dresch, Esq., Reg. No. 46,672	703-761-4100
Printed or Typed Name	Telephone number
Title	

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETE D FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.





RECEIVED

OCT 0 6 2005

JULY 16, 2003

PTAS

MCGINN & GIBB, PLLC SEAN M. MCGINN, ESQ. 8321 OLD COURTHOUSE ROAD, SUITE 200 VIENNA, VA 22182-3817 Under Secretary of Commerce For Intellectual Property and
Director of the United States Patent and Trademark Office
Washington, DC 20231
www.uspto.cov



UNITED STATES PATENT AND TRADEMARK OFFICE NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 02/28/2003

REEL/FRAME: 013799/0677

NUMBER OF PAGES: 3

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

NEC CORPORATION

DOC DATE: 11/01/2002

ASSIGNEE:

NEC ELECTRONICS CORPORATION 1753 SHIMONUMABE, NAKAHARA-KU KAWASAKI, KANAGAWA, JAPAN 211-8668

SERIAL NUMBER: 10242415

PATENT NUMBER:

FILING DATE: 09/13/2002

ISSUE DATE:

MARCUS KIRK, EXAMINER ASSIGNMENT DIVISION OFFICE OF PUBLIC RECORDS

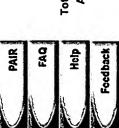


United States Patent and Trademark Office

Home | Site Index | Search | FAQ | Glossary | Guides | Contacts | eBusiness | eBiz alerts | News | Help

PATENT APPLICATION INFORMATION RETRIEVAL





Patent Assignment Abstract of Title

Total Assignments: 2

Application #: 10242415

Filing Dt: 09/13/2002

Inventor: Takashi Kitahara PCT #: NONE

Publication #: US20030052722 Patent #: 6670839

Issue Dt: 12/30/2003 Pub Dt: 03/20/2003 Pages: 3

Mailed: 12/11/2002

Exec Dt: 09/06/2002

Other Links

Title: CLOCK MONITORING APPARATUS

Assignment: 1

Recorded: 09/13/2002 Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS). Received: 09/18/2002 Reel/Frame: 013287/0421

Assignor: KITAHARA, TAKASHI

7-1, SHIBA 5-CHOME, MINATO-KU Assignee: NEC CORPORATION

Class/Subclass AU Information

Correspondent: MCGINN & GIBB, PLLC TOKYO, JAPAN

8321 OLD COURTHOUSE ROAD SEAN M. MCGINN

SUITE 200

VIENNA, VA 22182-3817

Assignment: 2

Recorded: 02/28/2003 Received: 03/05/2003 Reel/Frame: 013799/0677

Mailed: 07/16/2003

Exec Dt: 11/01/2002

Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignee: NEC ELECTRONICS CORPORATION Assignor: NEC CORPORATION

KAWASAKI, KANAGAWA, JAPAN 211-8668 1753 SHIMONUMABE, NAKAHARA-KU

SEAN M. MCGINN, ESQ. Correspondent: MCGINN & GIBB, PLLC

8321 OLD COURTHOUSE ROAD, SUITE 200

VIENNA, VA 22182-3817

Search Results as of: 9/27/2005 9:22:31 A.M.

PAIR: PAIR: Assignments Data

Disclaimer: Assignment information on the assignment database reflects assignment documents that have been actually recorded. If the assignment for a patent was not recorded, the name of the assignee on the patent application publication or patent may be different. If you have any comments or questions concerning the data displayed, contact OPR / Assignments at 703-308-9723

|.HOME | INDEX | SEARCH | @BUSINESS | CONTACT US | PRIVACY STATEMENT

Docke^{+ * 1}o.: 283579/01

	20000101		
FORM PTO-1595 (Modified) (Rev. 03-01) OMB No. C951-0027 (exp.5/31/2002) P08A/REV03 RECOPTION 2 - 28 - 03 P 0.3	U.S. DEPARTMENT OF COMMERCE Patent and Trademark Office		
Tab settings → → ▼	· · · · · · · · · · · · · · · · · · ·		
To the Honorable Commissioner of Patentspane	original documents or copy thereof.		
1. Name of conveying party(ies): NEC Corporation	2. Name and address or receiving party(ies):		
SEP 2 9 2005	Name: NEC Electronics Corporation		
	Address: 1753 Shimonumabe, Nakahara-ku		
TARADEMATA	RECEIVED		
Additional names(s) of conveying party(ies)			
3. Nature of conveyance:	OCT 0 6 2005		
	OFFICE OF PETITIONS		
☐ Security Agreement ☐ Change of Name	City: Kawasaki State/Prov.: Kanagawa		
☐ Other	Country: JAPAN ZIP: 211-8668		
Execution Date: November 1, 2002	Additional name(s) & address(es) ☐ Yes ☒ No		
4. Application number(s) or patent numbers(s):			
If this document is being filed together with a new application,	, the execution date of the application is:		
Patent Application No. Filing date	B. Patent No.(s)		
10/242,415 September 13, 2002	$\mathcal{H}_{\mathcal{H}}$		
3eptember 13, 2002	ir: FEB 2003 - i:		
Additional numbers	☐ Yes ☒ No		
5. Name and address of party to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved:		
Name: Sean M. McGinn, Esq.	7. Total fee (37 CFR 3.41):\$ 40.00		
Registration No. 34, 386			
Address: McGinn & Gibb, PLLC	Enclosed - Any excess or insufficiency should be credited or debited to deposit account		
	☐ Authorized to be charged to deposit account		
8321 Old Courthouse Road, Suite 200	Para Para Para Para Para Para Para Para		
•	Deposit account number:		
City: Vienna State/Prov.: VA	50-0481 (Deficiencies only)		
Country: <u>USA</u> ZIP: <u>22182-3817</u>	(Attach duplicate copy of this page if paying by deposit account)		
	JSE THIS SPACE		
9. Statement and signature. To the best of my knowledge and belief, the foregoing information in the foregoing in the	ation is true and correct and any attached copy is a true copy		
of the original document.			
Sean M. McGinn, Esq.	February 28, 2003		
Name of Person Signing	Signature Date		
Total number of pages including of	cover sheet, attachments, and		

Assignment

Whereas, NEC Corporation, a Japanese corporation, having a place of business at 7-1, Shiba 5-chome, Minato-ku, Tokyo, Japan, hereinafter called Assignor, is the owner and assignee of record of the pending applications listed on the attached Schedule A; and

Whereas, NEC Electronics Corporation, a Japanese corporation, having a place of business at 1753 Shimonumabe, Nakahara-ku, Kawasaki, Kanagawa 211-8668, Japan, hereinafter called Assignee, desires to acquire the Assignor's entire right, title, and interest in said applications listed on the attached Schedule A;

Now therefore, for valuable consideration, receipt whereof is hereby acknowledged;

Assignor hereby sells, assigns and transfers to Assignee, its successors and assigns, its entire right, title and interest including rights to recover for past infringement in the applications listed on the attached Schedule A;

IN WITNESS WHEREOF, Assignor has executed this Assignment by proper persons duly authorized.

	NEC Corporation
Date: November 1, 20	masao maruyama
	Name: Masao Maruyama U
	Title: Chief Manager
	Planning Division
Witness:	Intellectual Asset Operations Unit
Withess.	
November 1, 2002	A til a hunde
Date:	Name: Akira Muto





RECEIVED

120 1 6 2002 McGINN & GIBB, P.C.

DECEMBER 11, 2002

PTAS

MCGINN & GIBB, PLLC SEAN M. MCGINN 8321 OLD COURTHOUSE ROAD SUITE 200 VIENNA, VA 22182-3817 Under Secretary of Commerce For Intellectual Property and Director of the United States Patent and Trademark Office Washington, DC 20231 www.uspto.gov



102226040A

UNITED STATES PATENT AND TRADEMARK OFFICE NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

RECEIVED

OCT 0 6 2005

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPFFICE OF PETITIONS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER OF PETITIONS REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CCNTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 09/13/2002

REEL/FRAME: 013287/0421

NUMBER OF PAGES: 3

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

KITAHARA, TAKASHI

DOC DATE: 09/06/2002

ASSIGNEE:

NEC CORPORATION
7-1, SHIBA 5-CHOME, MINATO-KU
TOKYO, JAPAN

SERIAL NUMBER: 10242415

PATENT NUMBER:

FILING DATE: 09/13/2002

ISSUE DATE:

SAUNDRA BALLENGER, EXAMINER ASSIGNMENT DIVISION OFFICE OF PUBLIC RECORDS

	D. ROE 283579/01
ORM PTO-1595 (Modified) 09 - 18 - 20	
iev. 03-01) MB No. 0651-0027 (exp.5/31/2002) JBA/REV03	SEP 2 9 2005 Patent and Trademark Office
Tab settings → → → ▼ 1022260	40 ▼
To the Honorable Commissioner of Patents and Trademarks:	Please record the attached that a documents or copy thereof.
Name of conveying party(ies):	2. Name and address of receiving party(ies):
Takashi Kitahara	Name: NEC Corporation
<i>A</i> 13 A S	Address: 7-1, Shiba 5-chome
9-13.02	Minato-ku
Additional names(s) of conveying party(ies)	
3. Nature of conveyance:	<u>¬</u>
☐ Security Agreement ☐ Change of Name	City: State/Prov.:
□ Other	Country: Japan ZIP:
Execution Date: September 6, 2002	Additional name(s) & address(es)
4. Application number(s) or patent numbers(s):	
If this document is being filed together with a new application,	the execution date of the application is: September 6, 2002
Patent Application No. Filing date	B. Patent No.(s)
10/242415	
(0) 29 24.	
Additional numbers	Yes No
5. Name and address of party to whom correspondence	6. Total number of applications and patents involved:
concerning document should be mailed:	
Name: Sean M. McGinn, Esq.	7. Total fee (37 CFR 3.41):\$ 40.00
Registration No. 34,386	Enclosed - Any excess or insufficiency should be
Address: McGinn & Gibb, PLLC	credited or debited to deposit account
8321 Old Courthouse Road	│
Suite 200	8. Deposit account number:
77.	
City: Vienna State/Prov.: Virginia	50-0481
Country: <u>USA</u> ZIP: <u>22182-3817</u>	(Attach duplicate copy of this page if paying by deposit account)
	USE THIS SPACE
 Statement and signature. To the best of my knowledge and belief, the foregoing inform. 	ation is true and correct and any attached copy is a true copy
of the original document.	11/11/01/
Sean M. McGinn, Esq.	September 13, 2002
Name of Person Signing	Signature Date
Total number of pages including Mail documents to be recorded with	cover sheet, attachments, and required cover sheet information to:
Commissioner of Patents & T	Frademarks, Box Assignments n, D.C. 20231

40.00 OP

92 FC:581

ASSIGNMENT OF APPLICATION FOR PATENT

WHEREAS: TAKASHI KITAHARA c/o NEC Micro Systems, Ltd., 403-53, Kosugimachi 1-chome, Nakahara-ku, Kawasaki-shi, Kanagawa, Japan

NAME AND ADDRESS OF ASSIGNOR

(HEREINAFTER REFERRED TO AS ASSIGNOR), have invented and own a certain new and useful invention entitled:

TITLE OF INVENTION:

CLOCK MONITORING APPARATUS

WHEREAS: NEC Corporation
7-1, Shiba 5-chome, Minato-ku,
Tokyo, Japan

FULL NAME AND ADDRESS OF ASSIGNEE

(hereinafter referred to as ASSIGNEE), is desirous of acquiring the entire right, title, and interest in, to and under said invention and the United States Letters Patent to be obtained therefor:

NOW THEREFORE, TO ALL WHOM IT MAY CONCERN: Be it known that in consideration of the payment of ASSIGNEE to ASSIGNOR of the sum of One Dollar (\$1.00), the receipt of which is hereby acknowledged, and for other good and valuable consideration, ASSIGNOR, by these presents, hereby sells, assigns and transfers to ASSIGNEE the entire and exclusive right, title and interest to said invention and all Letters Patent of the United States to be obtained therefor on said application or any continuation, division, renewal, substitute or reissue thereof for the full term or terms for which the same may be granted.

ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue said Letters Patent of the United States Patent obtained therefor on said application or any

(Assignment of Application for Patent -- page 1 of 2)

continuation, division, renewal, substit or reissue thereof for the full term or terms to said ASSIGNEE, of the entire right, title, and interest in and to the same, for his sole use and behoof, and for the use and behoof of his legal representatives, to the full end of the term or terms for which said Letters Patent obtained therefor on said application or any continuation, division, renewal, substitute or reissue thereof for may be granted, as full and entirely as the same would have been held by ASSIGNOR had this assignment and sale not been made.

ASSIGNOR hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment and sale;

ASSIGNOR further covenants that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said application, said invention and said Letters Patent as may be known and accessible to ASSIGNOR and will testify as to the same in any interference or litigation related thereto and will promptly execute and deliver to ASSIGNEE or its legal representative any and all papers, instruments or affidavits required to apply for, obtain, maintain and enforce said application, said invention and said Letters Patent which may be necessary or desirable to carry out the purposes hereof.

DATE OF SIGNING

IN WITNESS WHEREOF, I/We have hereunto set

hand and seal this 6th day of September, 2002

SIGNATURE	By: Jakashi Kitahara 原
SIGNATURE	By:
SIGNATURE	Ву:
<u>WITNESSES</u>	Hetashi Chai

(Assignment of Application for Patent - page 2 of 2)



US006943590B2

(12) United States Patent Kitahara

(10) Patent No.:

US 6,943,590 B2

(45) Date of Patent:

Sep. 13, 2005

(54) CLOCK MONITORING APPARATUS

(75) Inventor: Takashi Kitahara, Kanagawa (JP)

NEC Electronics Corporation,

(73) Assigned NEC Corporation Takas (IR)

73) Assignce: NEC Corporation, Tokyo (JP)

Kawasaki, Kanajawa (JP)

*) Notice: Subject to any disclaimer, the term of the term

patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: 10/699,777

(22) Filed:

Nov. 4, 2003

(65)

Prior Publication Data

US 2004/0090245 A1 May 13, 2004

Related U.S. Application Data

(62) Division of application No. 10/242,415, filed on Sep. 13, 2002, now Pat. No. 6,670,839!

(30) Foreign Application Priority Data

	(JP)	. 18, 2001	Sep.
G01R 19/0		Int. Cl.7	(51)
327/18; 327/292; 713/500		U.S. Cl.	(52)
713/502; 714/2; 714/34; 714/74			` ,
h 327/292, 18; 714/797	Search	Field of	(58)

(56) References Cited

U.S. PATENT DOCUMENTS

4,653,054	Α	*	3/1987	Liu et al	714/814
5,642,069	Α		6/1997	Waite	327/292
5,969,558	Α		10/1999	Abe	327/292
6,343,334	Вl	*	1/2002	Uemura et al	710/8
6,670,839	B2	*	12/2003	Kitahara	327/292

714/814, 817, 2, 34, 744; 713/500-503

FOREIGN PATENT DOCUMENTS

JΡ

7-006155

1/1995

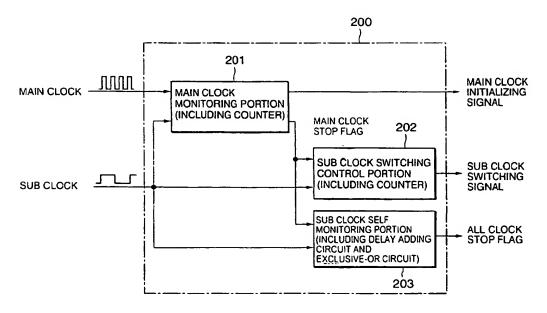
* cited by examiner

Primary Examiner—Kenneth B. Wells (74) Attorney, Agent, or Firm—McGinn & Gibb, PLLC

(57) ABSTRACT

A clock monitoring apparatus according to the invention including a main clock monitoring portion including a first counter for counting a main clock, issuing a normal operation confirming flag indicating that a normal operation is being carried out when the first counter is overflowed or reaches a previously determined set value, monitoring the normal operation confirming flag by a sub clock, issuing a first main clock stop flag having an output in correspondence with H (high level)/L (low level) of the normal operation confirming flag and a main clock initializing signal for initializing the main clock when the main clock is determined to stop and resetting the first main clock stop flag when the main clock is recovered by receiving the main clock initializing signal, and a sub clock switching control portion including a second counter for counting a signal output produced by calculating a logical sum of the sub clock and the first main clock stop flag at fall of the sub clock at a time point of generating the first main clock stop flag, switching to a sub clock operation by issuing a sub clock switching signal when the second counter output is overflowed or reaches a previously determined set value and resetting the second counter output when the main clock is recovered and a second main clock stop flag produced by inverting the first main clock stop flag and delaying the sub clock by a predetermined period by a main clock monitoring portion, is reset.

20 Claims, 12 Drawing Sheets



2